

REMARKS

I. Introduction

In response to the Office Action dated March 1, 2006, claims 1, 12, 16 and 27 have been amended. Claims 1-10, 12-25 and 27-30 remain in the application. Re-examination and re-consideration of the application, as amended, is requested.

II. Prior Art Rejections

A. The Office Action Rejections

In paragraphs (3)-(4) of the Office Action, claims 1, 3-6, 13-16, 18, 20-21, and 28-30 were rejected under 35 U.S.C. §102(b) as being anticipated by Tayloe et al., U.S. Patent No. 5,095,500 (Tayloe). In paragraph (5) of the Office Action, claims 2, 4, 7-10, 17, 19, 22, and 23-25 were rejected under 35 U.S.C. §103(a) as being unpatentable over Tayloe in view of Montoya, U.S. Patent No. 5,983,109 (Montoya).

Applicants' attorney respectfully traverses these rejections.

B. The Applicants' Independent Claims

Independent claims 1 and 16 are generally directed to operating a wireless network. Claim 1 is representative and comprises:

(a) collecting and analyzing information from the wireless network into a collection and analysis system coupled to the wireless network, wherein the information includes location information on mobile transceivers operating within the network; and

(b) optimizing the wireless network's operation from a network control system coupled to the wireless network by intelligently steering radio frequency (RF) signal beams in the direction of one or more mobile transceivers using the collected and analyzed information.

C. The Tayloe Reference

Tayloe describes a system and method of evaluating the radio coverage of a geographic area serviced by a digital cellular radiotelephone communication system is described which comprises a plurality of base stations each having a transmitter and a receiver and a plurality of mobile units having co-located transmitters and receivers for transmitting and receiving communication message signals between the base stations and a mobile unit. During operation, the position of at least one of the mobile units operating within the geographic area is located when a call is received by a base

station. The base station monitors the signal quality of the call and collects information relevant to the actual performance of the communication system. The mobile unit location and corresponding signal quality data are passed from the base station to a central operation and maintenance unit which collects the data, performs all necessary analytic and arithmetic computations, and provides a user-friendly representation of the characteristics of the radio coverage. With this representation of the radio coverage characteristics, the system operator can quickly and efficiently diagnose coverage deficiencies and take the necessary corrective action. By continuously monitoring subscriber calls and updating the pictographic representations, the system operator can actually observe the effect of the adopted modifications in a pseudo real-time fashion.

D. The Montoya Reference

Montoya describes a system and method that uses an advanced positioning system in combination with a cellular communication network to improve the performance of the network is disclosed. One embodiment of the network includes a mobile switching center (MSC), a location tracker system (LTS), and a plurality of base stations for serving at least one mobile unit in the network. The LTS is able to receive a location code from the mobile unit that represents a specific coordinate, or location, in the network. The mobile unit may have generated the location code by analyzing its position from a global positioning satellite, or by other means. The LTS stores the location code in a data base. Whenever the MSC needs to communicate with the mobile unit, it queries the database of the LTS to determine the last location of the mobile unit. The MSC then selects one of the base stations that serves the location of the mobile unit and establishes a cellular link therethrough.

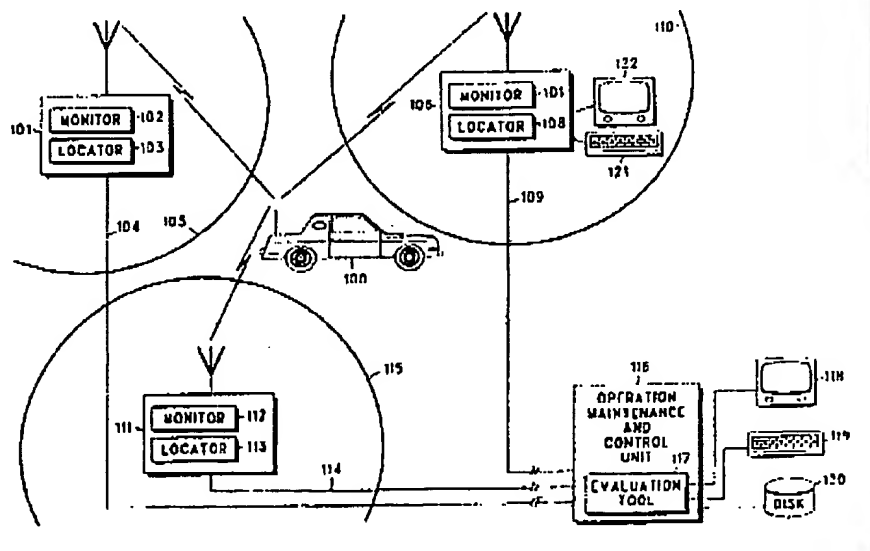
E. The Applicants' Invention is Patentable Over the References

The Applicants' invention, as recited in independent claims 1 and 16 is patentable over the references, because it contains limitations not taught by the references. Specifically, the references do not teach or suggest the specific combination of limitations comprising: "collecting and analyzing information from the wireless network into a collection and analysis system, wherein the information includes location information on mobile transceivers operating within the network," and "optimizing the wireless network's operation from a network control system by intelligently forming radio frequency (RF) signal beams using the collected and analyzed information."

The Office Action, however, asserts that Tayloe teaches these limitations. What is unusual about these assertions by the Office Action is that the Examiner has changed his position on the comparison of Tayloe to the independent claims. In the previous Office Action, the Examiner admitted that Tayloe did not disclose the limitation "intelligently forming radio frequency (RF) signal beams," but instead cited U.S. Patent No. 6,512,481 (Velazquez) as teaching those limitations. In response, Applicants' attorney submitted a Declaration under 37 C.F.R. §1.131 to "swear-behind" and thus eliminate the Velazquez patent as a reference. Now, the Examiner contradicts this previous admission and asserts that Tayloe does disclose the limitation "intelligently forming radio frequency (RF) signal beams."

While Applicants' attorney has found no authority to indicate that such a change in position is per se improper, Applicants' attorney does submit that the Examiner's change in position is not properly grounded. At the indicated locations, the Tayloe reference does not teach or suggest these aspects of the Applicants' invention. Instead, at the indicated locations, the Tayloe reference merely states the following:

Tayloe: FIG. 1.



Tayloe: Col. 5, lines 25-65

As base stations 101, 106, and 111 communicate with device 100, information concerning the mobile unit location and the resultant signal quality is gathered and passed along lines 104, 109, or 114 to the Operation Maintenance and Control Unit (OMCU) 116. The OMCU is a centralized management tool within the

communication system which supports the basic operation and maintenance functions required by each serviced base station. Via the terminal 119 and the CRT display 118, a system operator can access base station 101, 106, or 111 and alter various system parameters such as: transmitter power, transmitter frequency, frequency assignments, or software algorithms. In addition the OMCU provides the mass storage 120 and necessary computing power to support these operations.

Careful review of FIG. 1 reveals that the evaluation tool 117 is mated with the OMCU. The evaluation tool performs the required statistical analysis and correlation which relates the mobile unit's position with the resultant signal quality. As a function of these actual measurements, the evaluation tool is capable of providing a computer generated representation of the characteristics of the electromagnetic coverage. These representations, graphical or tabular, are presented to the system operator via CRT displays 118 or 122. Armed with this information, the system operator can easily plan, diagnose, or optimize the electromagnetic coverage of that communication system.

When corrective actions are required, the system operator can initiate previously mentioned alterations from the OMCU. Hardware specific alterations like: increasing or decreasing antenna height, adding additional base stations, utilizing omni or directional antennae, or varying antenna shaping must be performed in the field. Upon completion, continuously monitoring subscriber calls within the affected area allows the evaluation tool to update the graphical representations for that areas. These updates, in turn, enables the system operator to quickly and efficiently evaluate the effectiveness of proposed solutions, and make additional changes as required.

Thus, in Tayloe, information concerning the mobile unit location and the resultant signal quality is gathered and passed to the Operation Maintenance and Control Unit (OMCU), which supports the basic operation and maintenance functions required by each serviced base station. As noted in the Office Action, Tayloe only suggests that various system parameters, such as transmitter power, can be altered.

However, altering transmitter power does not teach or suggest intelligently steering RF signal beams in the direction of one or more mobile transceivers using the collected and analyzed information. Indeed, nothing in Tayloe describes a similar function.

Moreover, Montoya fails to overcome the deficiencies of Tayloe. Recall that Montoya was only cited against dependent claims 2, 4, 7-10, 17, 19, 22, and 23-25, and only for teaching E911 location information, the triggering of thresholds including handoff thresholds, and performing handoffs.

Finally, the various elements of Applicants' claimed invention together provide operational advantages over Tayloe and Montoya. In addition, Applicants' invention solves problems not recognized by Tayloe and Montoya.

Thus, Applicants submit that independent claims 1 and 16 are allowable over Tayloe and Montoya. Further, dependent claims 2-10, 12-15, 17-25, and 27-30 are submitted to be allowable over Tayloe and Montoya in the same manner, because they are dependent on independent claims 1 and 16, respectively, and thus contain all the limitations of the independent claims. In addition, dependent claims 2-10, 12-15, 17-25, and 27-30 recite additional novel elements not shown by Tayloe and Montoya.

III. Conclusion

In view of the above, it is submitted that this application is now in good order for allowance and such allowance is respectfully solicited. Should the Examiner believe minor matters still remain that can be resolved in a telephone interview, the Examiner is urged to call Applicants' undersigned attorney.

Respectfully submitted,


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